



Family Nursing & Home Care

Standard Operating Procedures

Preparation of Injectable Medicines

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Introduction

These Standard Operating Procedures provide step by step guidance in the preparation of an Injectable Medicine. For further guidance on bolus or intermittent infusion please refer to clinicalskills.net and follow the link for procedures. You will need to have your login details to access the information.

SOP 1 Withdrawing solution from an ampoule into a syringe

Purpose

To support Registered Nurses in the administration of injectable medicines.

Scope

All Registered Nurses administering injectable medicines to patients referred to FNHC.

Core Requirements

Injectable medicines may only be administered by healthcare professionals who have the necessary knowledge and skills and who feel competent and confident in this practice.

Withdrawing solution from an ampoule (glass or plastic) into a syringe

- use aseptic technique at all times
- tap the ampoule gently to dislodge any medicine in the neck
- snap open the neck of glass ampoule, using an ampoule snapper if required
- attach a filter needle to a syringe and draw the required volume of solution into the syringe. Tilting the ampoule if necessary
- invert the syringe and tap lightly to aggregate the air bubbles at the needle end. Expel the air carefully
- remove the needle from the syringe and fit a new needle
- label syringe if the medication is not to be administered immediately. Only one unlabeled medicine must be handled at one time.
- keep the ampoule and any unused medicine until administration to the patient is complete to enable further checking
- if the ampoule contains a suspension, it should be gently swirled to mix the contents immediately before they are drawn into the syringe.

NB the neck of some plastic ampoules are designed to connect directly to a syringe, after the top of ampoule has been twisted off.

SOP 2 Withdrawing a solution or suspension from a vial into a syringe

Purpose

To support Registered Nurses in the administration of injectable medicines.

Scope

All Registered Nurses administering injectable medicines to patients referred to FNHC.

Core Requirements

Injectable medicines may only be administered by healthcare professionals who have the necessary knowledge and skills and who feel competent and confident in this practice.

Withdrawing a solution or suspension from a vial into a syringe

- Remove the tamper-evident seal from the vial and wipe the rubber septum with an alcohol and chlorhexidine wipe. Allow to dry for at least 30 seconds
- With the filter needle sheathed, draw into the syringe a volume of air equivalent to the required volume of solution to be drawn up
- Remove the filter needle cover and insert the needle into the vial through the rubber septum
- Invert the vial. Keep the needle in the solution and slowly depress the plunger to push air into the vial
- Release the plunger so that solution flows back into the syringe
- If a large volume of solution is to be withdrawn, use a push-pull technique. Repeatedly inject small volumes of air and draw up an equal volume of solution until the required total is reached. This 'equilibrium method' helps to minimise the build-up of pressure in the vial
- Alternatively, the rubber septum may be pierced with a second needle to let air into the vial as solution is withdrawn. The tip of the vent must always be kept above the solution to prevent leakage
- With the vial still attached, invert the syringe. With the needle and vial uppermost, tap the syringe lightly to aggregate the air bubbles at the needle end. Push the air back into the vial
- Fill the syringe with the required volume of solution then draw in a small volume of air. Withdraw the needle from the vial

- Expel excess air from the syringe. Remove the needle and exchange it for a new needle or a sterile blind hub
- The vial(s) and any unused medicine should be kept until administration to the patient is complete
- If the vial contains a suspension rather than solution, it should be gently swirled to mix the contents, immediately before they are drawn into the syringe

SOP 3 Reconstituting powder in a vial and drawing the resulting solution or suspension into a syringe

Purpose

To support Registered Nurses in the administration of injectable medicines.

Scope

All Registered Nurses administering injectable medicines to patients referred to FNHC.

Core Requirements

Injectable medicines may only be administered by healthcare professionals who have the necessary knowledge and skills and who feel competent and confident in this practice.

Reconstituting powder in a vial and drawing the resulting solution or suspension into a syringe

- remove the tamper-evident seal from the vial and wipe the rubber septum with an alcohol and chlorhexidine wipe. Allow to dry for at least 30 seconds
- use the procedure in SOP 1 to withdraw the required volume of diluent from ampoule into the syringe
- inject the diluent into the vial. Keeping the tip of the needle above the level of the solution in the vial, release the plunger. The syringe will fill with the air which has been displaced by the solution (if the contents of the vial were packed under a vacuum, solution will be drawn into the vial and no air will be displaced). If a large volume of diluent is to be added, use a push-pull technique
- with the syringe and needle still in place, gently swirl the vial(s) to dissolve all the powder, unless otherwise indicated by the product information. This may take several minutes
- follow the relevant steps in SOP 1 to withdraw the require volume of solution from the vial into the syringe
- alternatively, the rubber septum may be pierced with a second needle to let air into the vial as solution is withdrawn. The tip of the vent needle must always be kept above the solution to prevent leakage

SOP 4 Adding medicine to an infusion

Purpose

To support Registered Nurses in the administration of injectable medicines.

Scope

All Registered Nurses administering injectable medicines to patients referred to FNHC.

Core Requirements

Injectable medicines may only be administered by healthcare professionals who have the necessary knowledge and skills and who feel competent and confident in this practice.

Adding a medicine to an infusion

- prepare the medicine in a syringe using one of the methods described in SOP 1 or 2
- check the outer wrapper of the infusion container is undamaged
- remove the wrapper and check the infusion container itself in good light. It should be intact and free of cracks, punctures/leaks
- check the infusion solution, which should be free of haziness, particles and discolouration
- where necessary, remove the tamper-evident seal on the additive port according to the manufacturer's instructions or wipe the rubber septum on the infusion container with an alcohol and chlorhexidine wipe and allow to dry for at least 30 seconds (Note: there is no need to clean the additive port if the bag has just been taken out of its sterile packaging)
- if the volume of medicine solution to be added is more than 10% of the initial contents of the infusion container (more than 50ml to a 500ml or 100ml to a 1litre infusion), an equivalent volume must first be removed with a syringe and needle
- inject the medicine into the infusion container through the centre of the injection port, taking care to keep the tip of the needle away from the side of the infusion container. Withdraw the needle and invert the container at least five times to ensure thorough mixing before starting the infusion
- check the appearance of the final infusion for absence of particles, cloudiness or discolouration